

Traffic Flow Management

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ASCI 645

ATC vs. Traffic Management

AIR TRAFFIC CONTROL

- Tactical
- Deals directly with individual aircraft
- Separation provided between aircraft and airspace

TRAFFIC MANAGEMENT

- Strategic
- Deals with populations of aircraft (flows)
- **Balances Capacity with Demand**

Collaborative Decision Making

- Business Philosophy - Connect Government with Industry
- 24 airlines currently participating
- Better information will lead to better decision making
- Tools to respond to changing conditions
- Techniques that achieve results with minimal impact



TFM Tools

- Traffic Situation Display (TSD)
- Flight Schedule Monitor (FSM)
- Airspace Flow Program (AFP)
- Monitor Alert
- Center-Terminal Automation System (CTAS)

Techniques - Traffic Management Initiatives (TMI's)

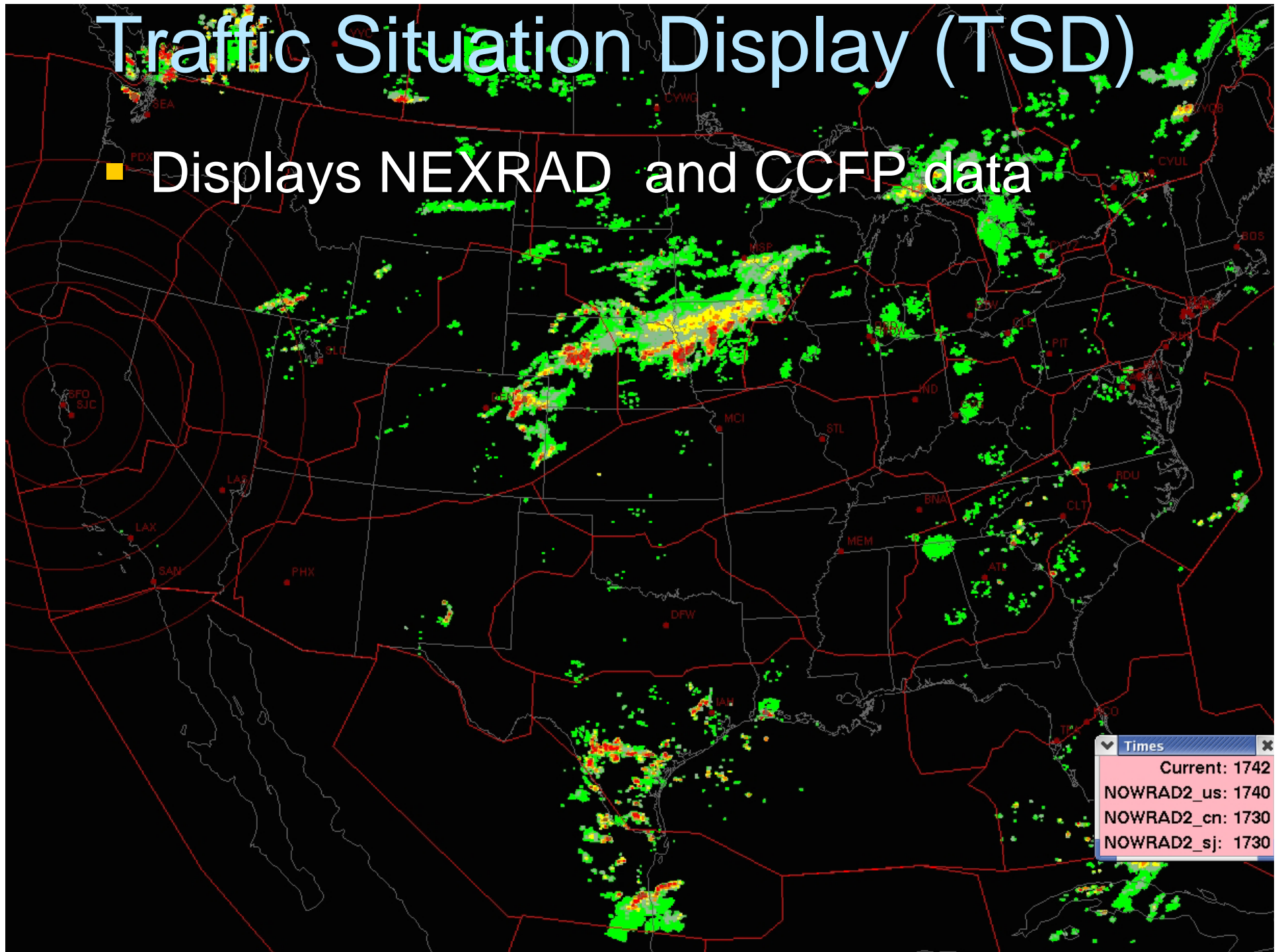
- Techniques used to manage demand with capacity in the NAS
- MIT – Miles-in-Trail
- MINIT – Minutes-in-Trail
- Capping or Tunneling – Restricting the climb of an aircraft to remain below a sector
- Low Altitude Arrival/Departure Routing (LAADR) – Altitude expectations during Severe Wx
- Fix balancing
- Airborne holding

Techniques - Traffic Management Initiatives (TMI's)

- Sequencing Programs (MIT)
 - Departure Sequencing Program (DSP)
 - En Route Sequencing Program (ESP)
 - Arrival Sequencing Program (ASP)
- Time-Based Metering (CTAS-TMA)
- Reroutes
- Ground Delay Programs
- Ground Stops

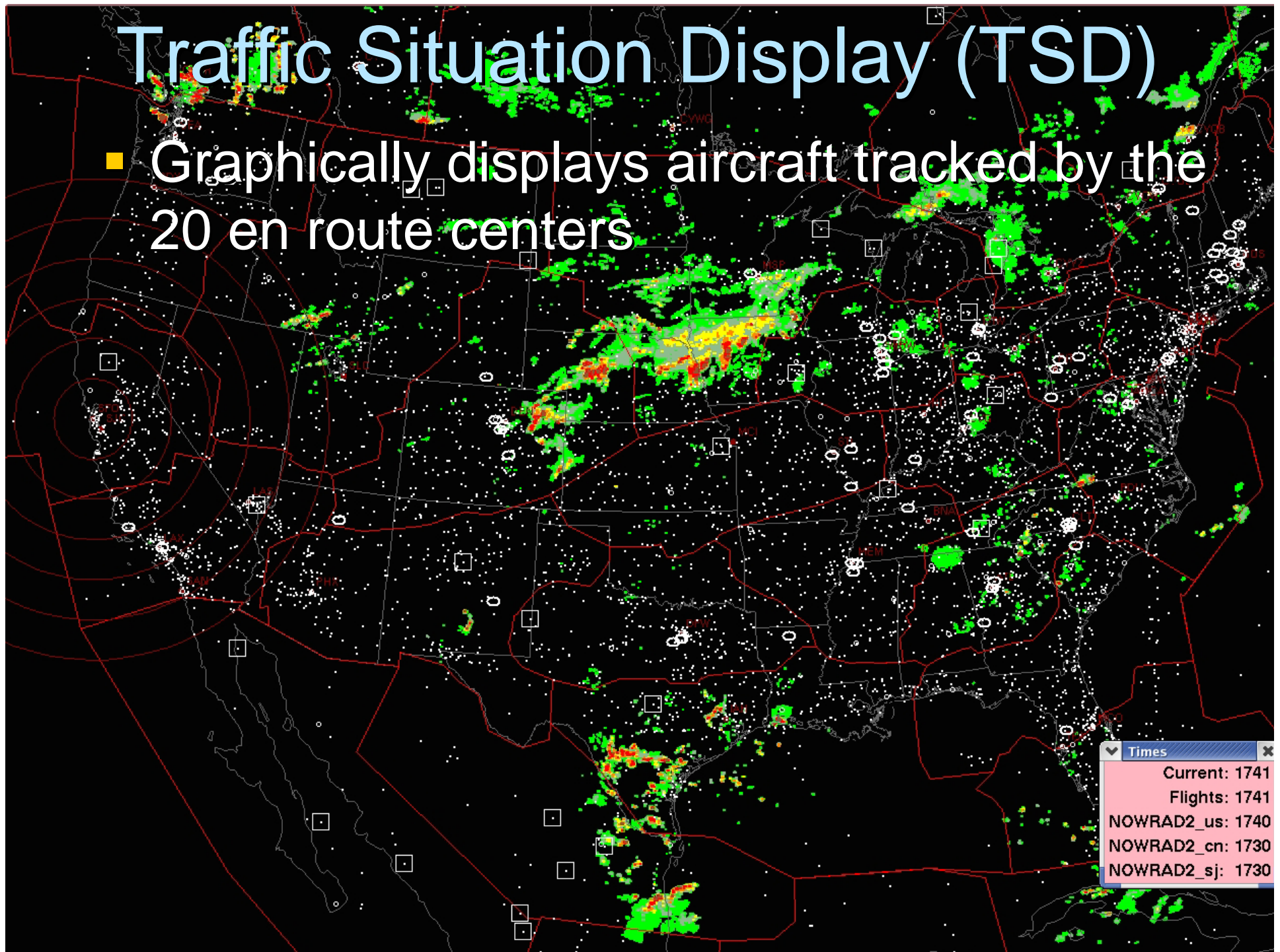
Traffic Situation Display (TSD)

- Displays NEXRAD and CCFP data



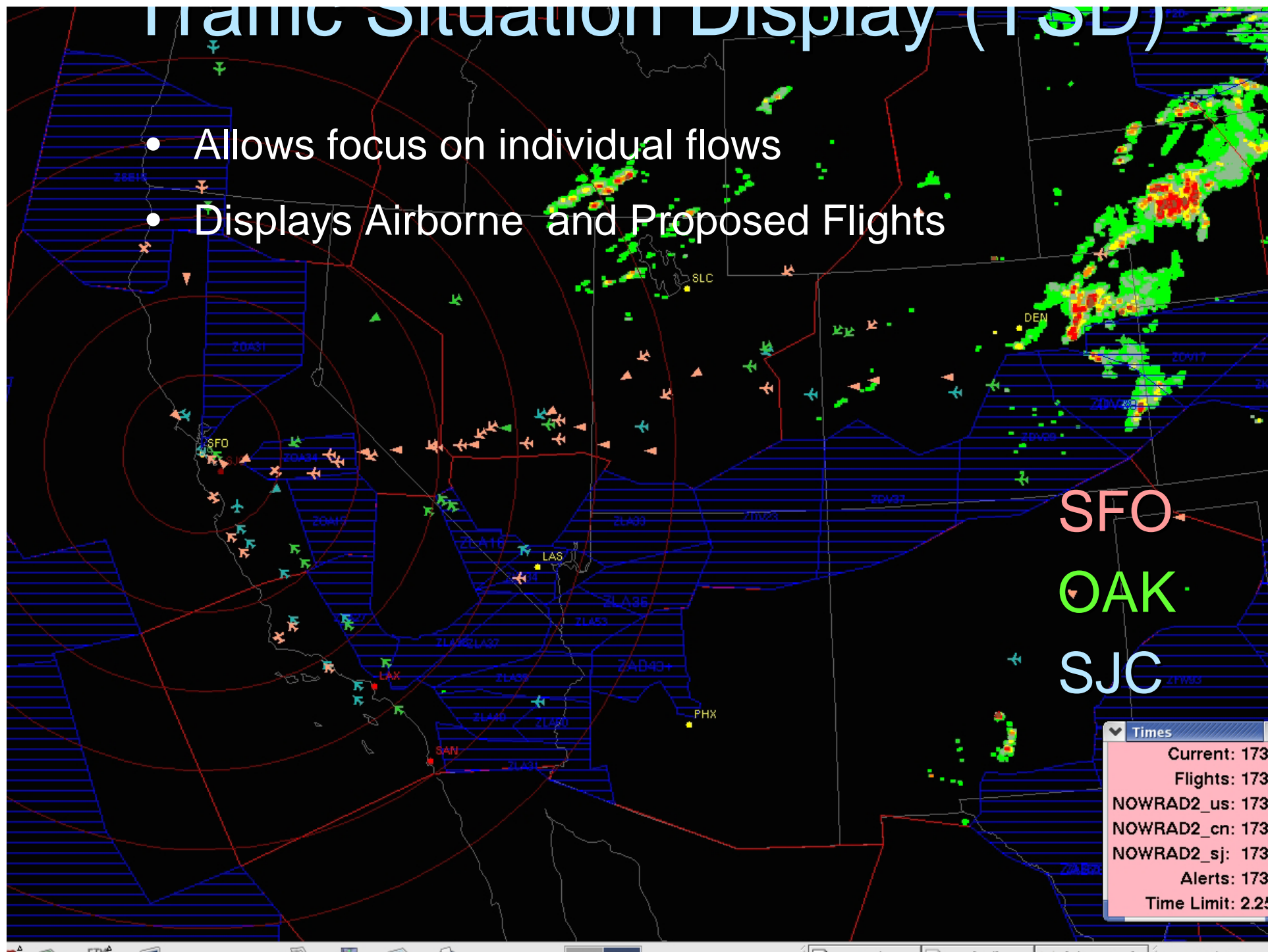
Traffic Situation Display (TSD)

- Graphically displays aircraft tracked by the 20 en route centers



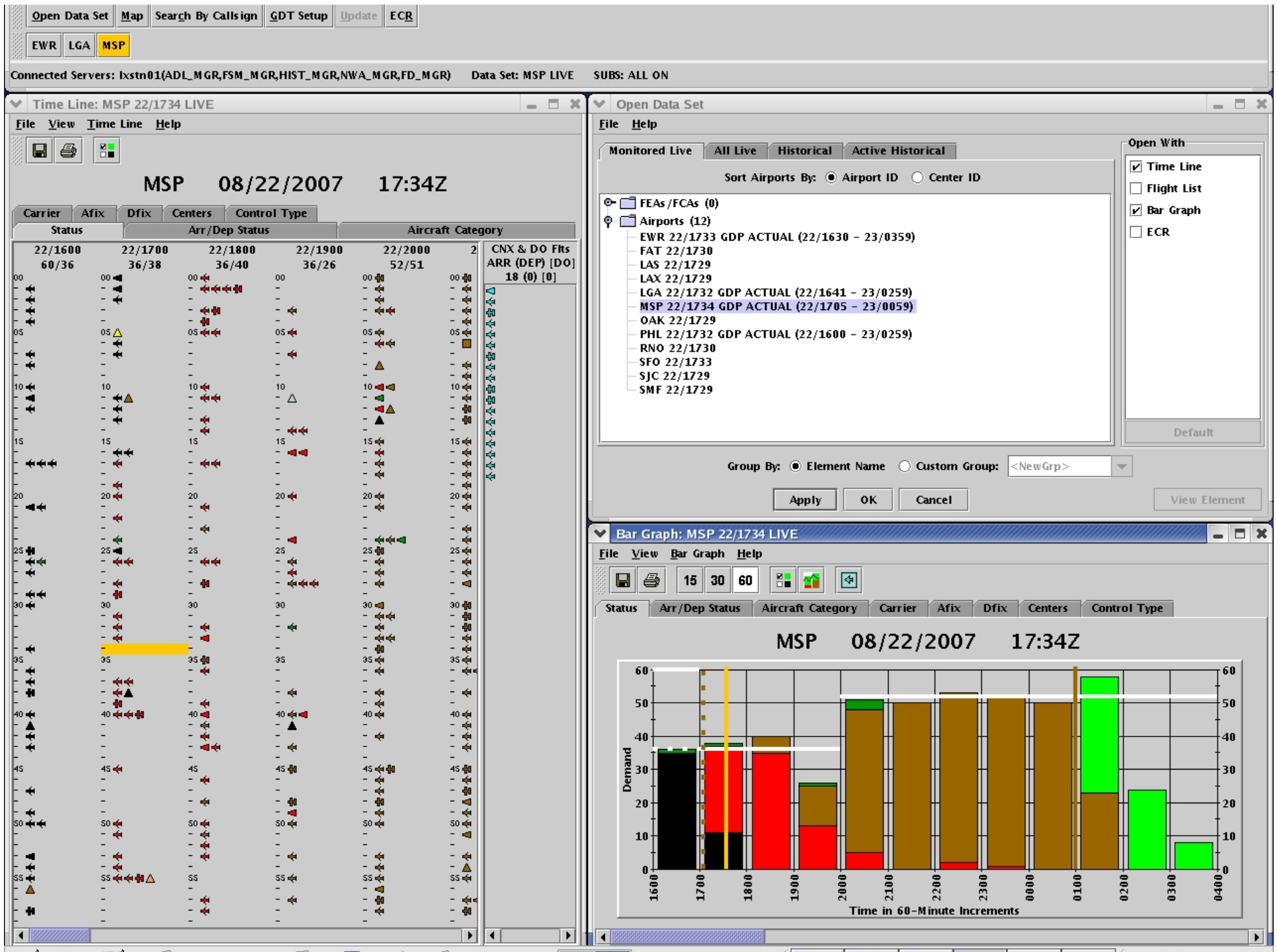
Traffic Situation Display (TSD)

- Allows focus on individual flows
- Displays Airborne and Proposed Flights



Ground Delay Program

- Each Airport constrained by Aircraft Arrival Rate
 - e.g., SFO: 30/45/60 rate
- Airlines Schedule Flights Based on optimal conditions
- Weather, Convective Activity, other factors can reduce AAR
- Expected number aircraft exceed AAR capacity
- ATCSCC Assigns Ground Delay Based on EDCT
- Less Costly and Safer than Airborne Holding

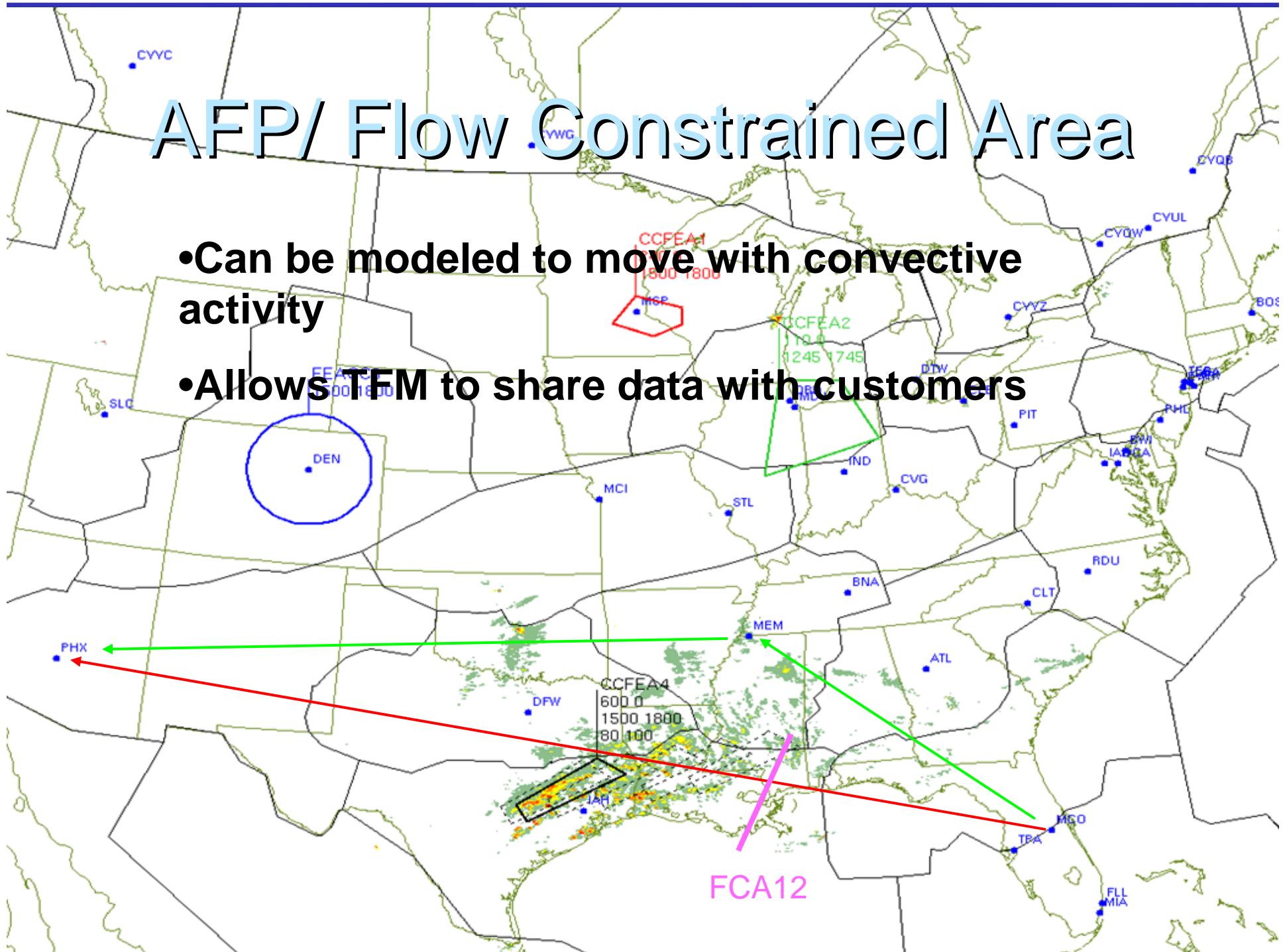


Airspace Flow Program (AFP)

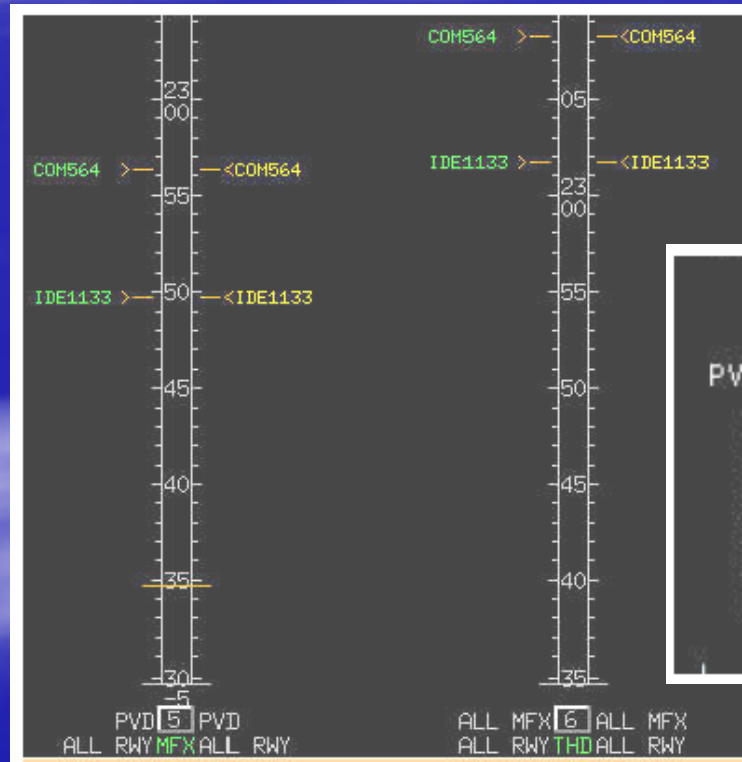
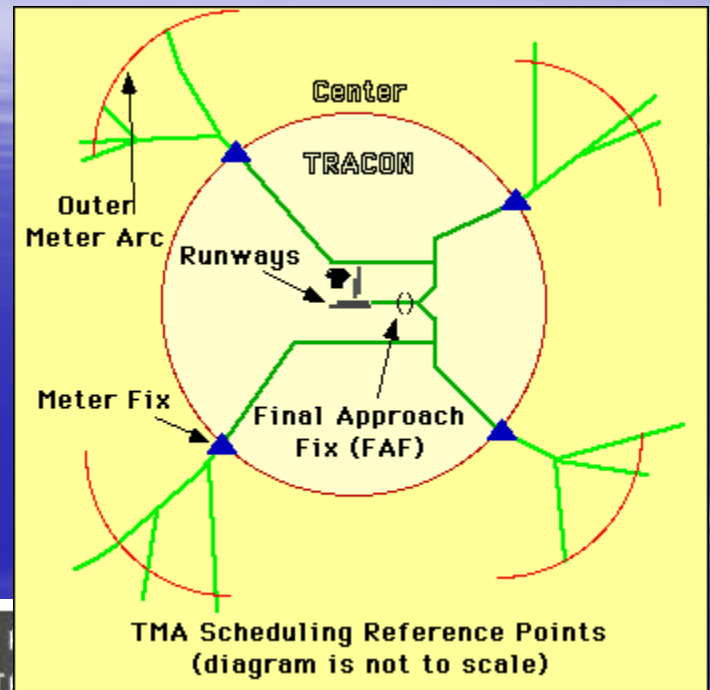
- Uses Flow Constrained Areas (FCA)
- Alleviate adverse effects of CW on the NAS
- Mechanism for automated data transfer
- Common situational awareness
- Allows TFM to meter the flow into the FCA by use of EDCTs
- Allows customers to avoid FCA/EDCTs by filing and flying around

AFP/ Flow Constrained Area

- Can be modeled to move with convective activity
- Allows TFM to share data with customers



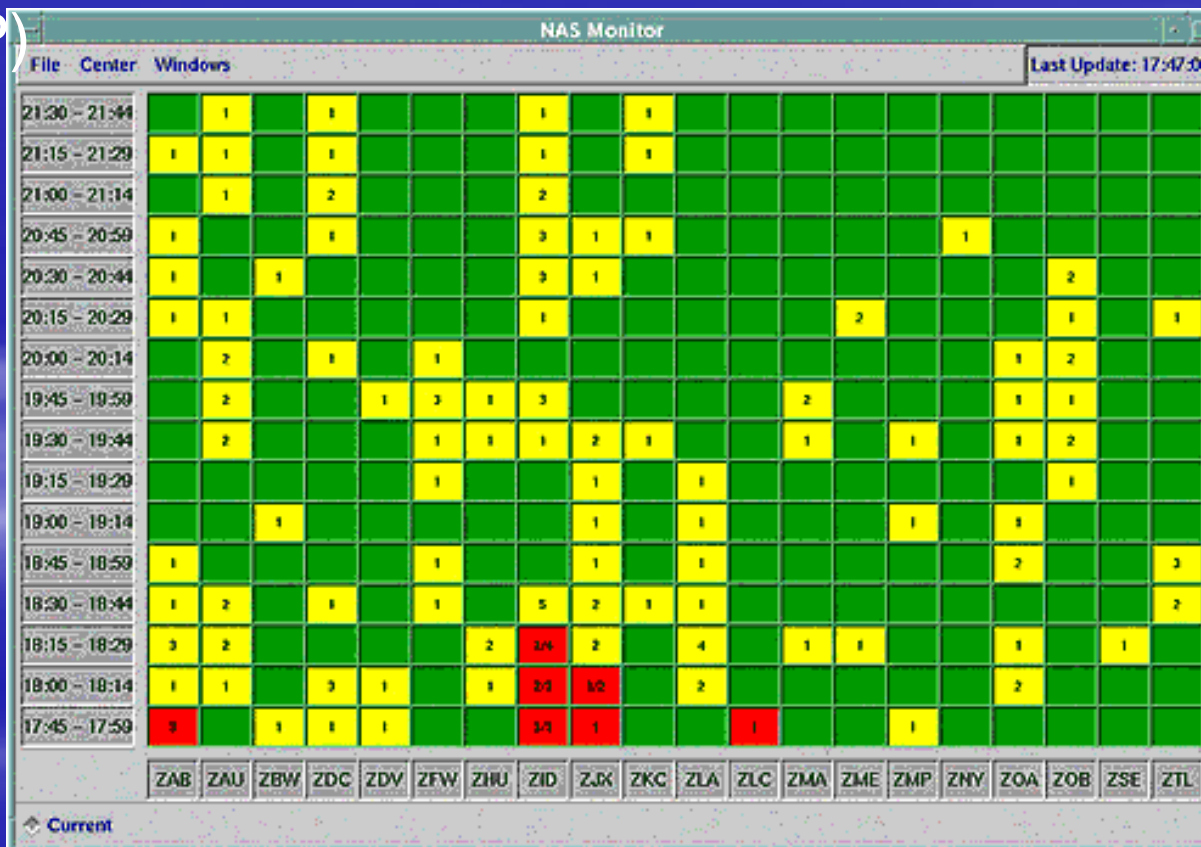
CTAS / TMA Adjacent Center Metering



BOS	15R_ILS	BOS
AID	MFN	MF/STI
PV		
>N150TX	PV	2302 01
>EGF541	PV	2301 01
&COM564	PV	2300
&JBU466	PV	2251
&IDE1133	PV	2249

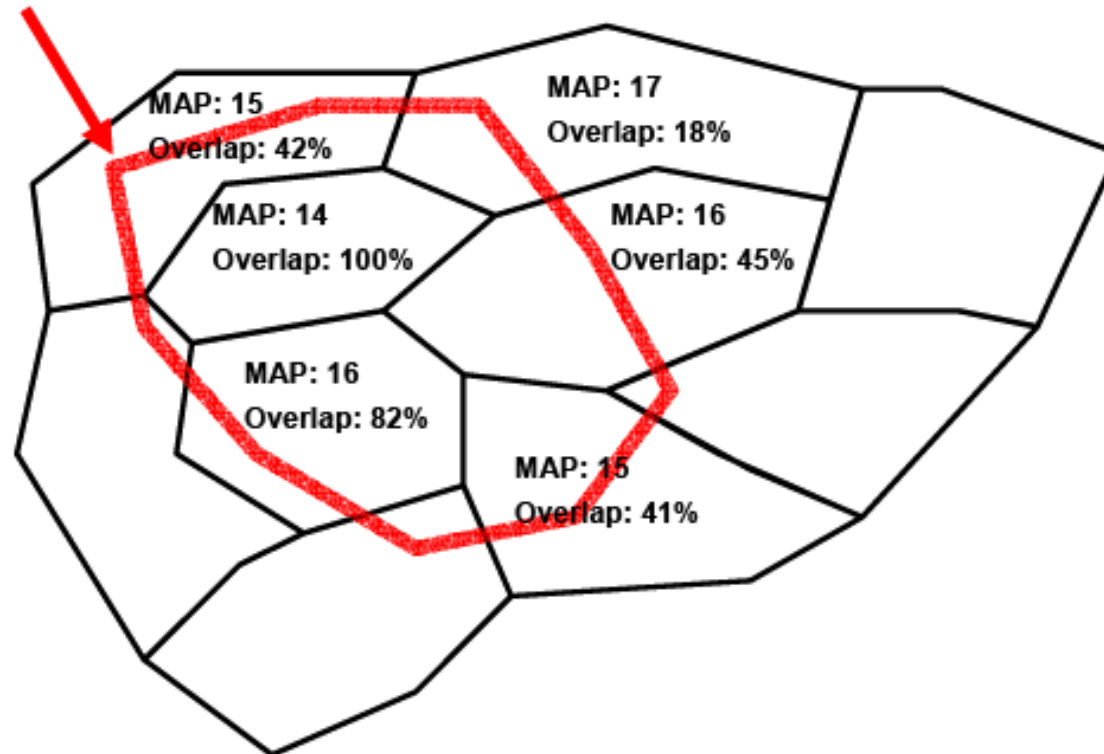
Monitor Alert

- Alerts TFM in advance to sectors likely to experience traffic levels that exceed sector capacity
- Sector Capacity defined by a Monitor Alert Parameter (MAP)

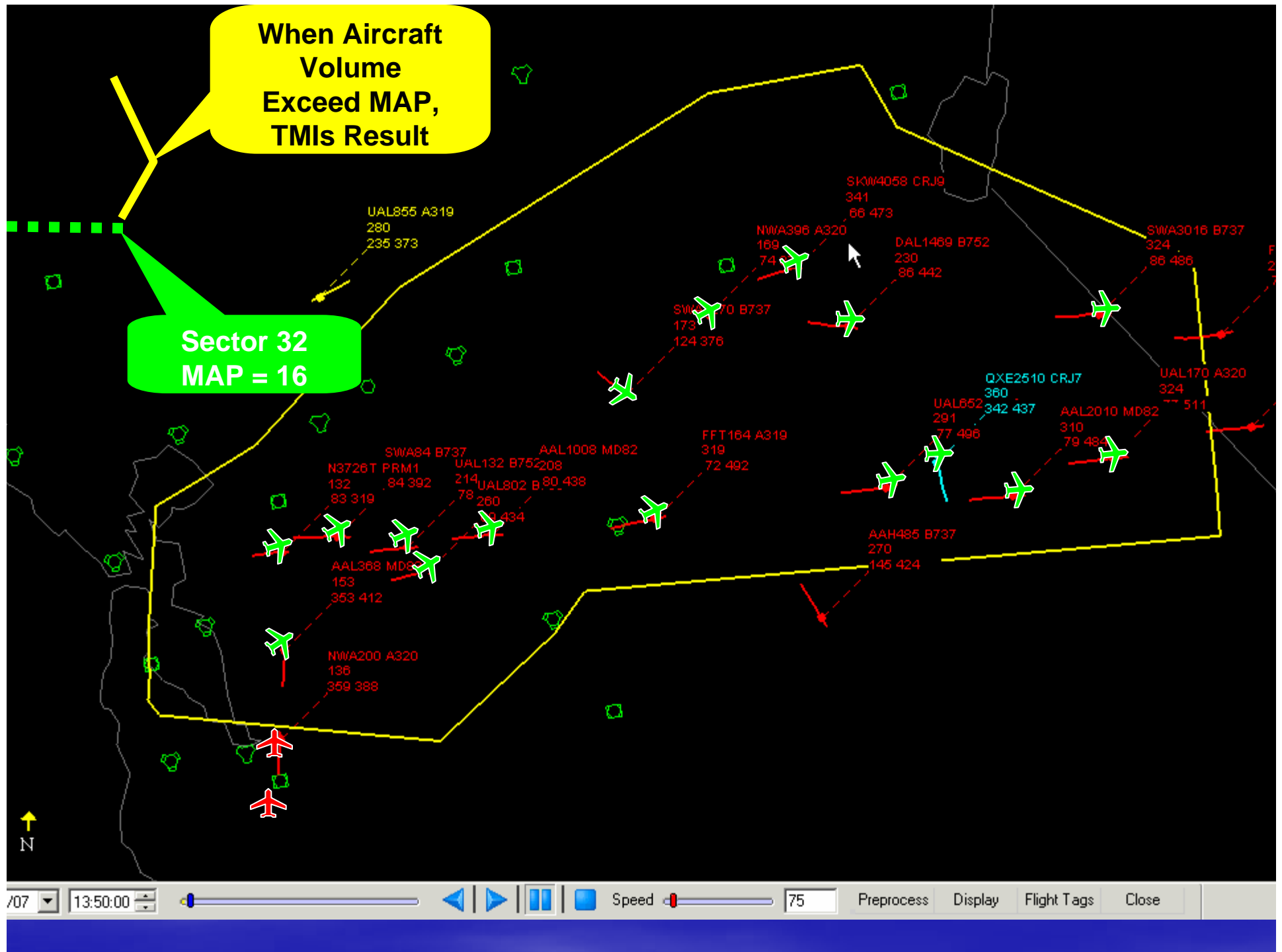


Weather reduces sector capacity

Weather FCA



Sector 32
MAP = 16



Keeping the Capacity Glass Full

- ZOA 32
- TMI: 10 increased to 15 MIT SAC/LIN
- SMF South and East Dep Capped
- Airborne Reroutes



